

Claims**WHAT IS CLAIMED IS:**

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1. An electrical connector, comprising:
 a dielectric base;
 5 a plurality of ground or power contacts in said dielectric base and comprising:
 a mating portion for engaging a mating connector; and
 a mounting portion for securing the connector to a substrate;
 a plurality of signal contacts in said dielectric base, angled relative to
 10 said plurality of ground or power contacts and comprising:
 a mating portion for engaging a mating connector; and
 a mounting portion for securing the connector to a substrate; and
 a plurality of solder masses, each secured to a respective one of said
 mounting ends of said plurality of ground or power contacts and said
 15 plurality of signal contacts for securing the connector to the substrate.
2. The electrical connector as recited in claim 1, wherein each of said plurality of signal contacts has opposed major surfaces defining sides and opposed minor surfaces defining edges, each of said edges positioned
 20 adjacent a respective one of said plurality of ground or power contacts.
3. The electrical connector as recited in claim 2, wherein said plurality of signal contacts extend transverse to said plurality of ground or power contacts.
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4. The electrical connector as recited in claim 3, wherein said plurality of signal contacts extend generally perpendicular to said plurality of ground

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~~or power contacts.~~

112 5. The electrical connector as recited in claim 1, wherein each of said plurality of signal contacts has opposed major surfaces defining sides and opposed minor surfaces defining edges, wherein a coupling between said plurality of signal contacts and plurality of ground or power contacts is greater than a coupling between adjacent signal contacts for reducing cross-talk.

electro
magnetic

10 6. The electrical connector as recited in claim 1, wherein two of said plurality of ground or power contacts flank at least one of said plurality of signal contacts.

15 7. The electrical connector as recited in claim 6, wherein said plurality of signal contacts extend transverse to said plurality of ground or power contacts.

20 8. The electrical connector as recited in claim 7, wherein said plurality of signal contacts extend generally perpendicular to said plurality of ground or power contacts.

9. The electrical connector as recited in claim 6, wherein said plurality of ground or power contacts are parallel.

25 10. The electrical connector as recited in claim 1, wherein said plurality of signal contacts are arranged in an array of rows and columns.

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11. The electrical connector as recited in claim 10, wherein said plurality of ground or power contacts extend between adjacent rows of signal contacts.

5 12. The electrical connector as recited in claim 11, wherein said plurality of ground or power contacts extend the entire length of respective rows of said signal contacts.

10 13. The electrical connector as recited in claim 1, wherein said dielectric base includes:
a plurality of apertures extending therethrough and corresponding to said plurality of ground or power contacts and said plurality of signal contacts;

a mounting surface positionable adjacent the substrate; and

15 a plurality of recesses in said mounting surface in communication with said plurality of apertures, wherein said mounting portions of said plurality of signal contacts reside within a corresponding one of said plurality of recesses.

20 14. The electrical connector as recited in claim 1, wherein said dielectric base has a mating surface for engaging a mating surface of a mating connector, said plurality of ground or power contacts and said signal contacts extending past said mating surface of said dielectric base.

25 15. The electrical connector as recited in claim 1, wherein said plurality of ground or power contacts and said signal contacts reside entirely within said dielectric housing.

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no
basis

16. The electrical connector as recited in claim 1, wherein said solder masses are solder balls.

5 17. The electrical connector as recited in claim 1, wherein said solder masses are reflowable.

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18. An electrical connector, comprising:

10 an insulative housing having a plurality of apertures extending therethrough;

a plurality of contacts, each in a respective one of said plurality of apertures and comprising:

a mating portion for engaging a contact on a mating connector; and

a mounting portion for securing the connector to a substrate; and

15 a plurality of solder masses, each secured to a respective one of said mounting ends of said plurality of contacts.

19. The electrical connector as recited in claim 18, wherein said solder masses are solder balls.

20 20. The electrical connector as recited in claim 18, wherein said solder masses are reflowable.

21. The electrical connector as recited in claim 18, wherein said
25 plurality of contacts are arranged in an array of rows and columns.

22. The electrical connector as recited in claim 18, wherein said

insulative housing further comprises:

a mounting surface positionable adjacent the substrate; and

a plurality of recesses in said mounting surface in communication with said plurality of apertures, wherein said mounting portions of said

5 plurality of contacts reside within a corresponding one of said plurality of recesses.

23. The electrical connector as recited in claim 22, wherein said

mounting portion of said plurality of contacts each include an angled

10 portion residing within a corresponding one of said recesses and receiving said solder mass.

24. The electrical connector as recited in claim 23, wherein said angled portion is generally parallel to the substrate.

15 25. The electrical connector as recited in claim 22, wherein said plurality of recesses are rectangular.

recesses

A11 26. The electrical connector as recited in claim 18, wherein said
20 dielectric base has a mating surface for engaging a mating surface of a mating connector, said plurality of contacts extending past said mating surface of said dielectric base.

112 27. The electrical connector as recited in claim 18, wherein said
25 plurality of contacts reside entirely within said dielectric housing.

are bases within the housing

28. The electrical connector as recited in claim 18, wherein said

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29. The electrical connector as recited in claim 18, wherein said insulative housing comprises:

5 a generally planar base having a periphery; and
a wall extending from said periphery of said base and adapted to
engage side walls of a mating connector.

30. The electrical connector as recited in claim 18, wherein said
10 mounting portion of said plurality of contacts each include an angled
portion receiving a corresponding one of said solder masses.

31. The electrical connector as recited in claim 30, wherein said angled portion is generally perpendicular to said mating portion.

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32. An electrical connector, comprising:
an insulative housing with a mating face positionable adjacent a
mating connector and a mounting face positionable adjacent a substrate;
at least one contact extending between said mating face and said
20 mounting face of said insulative housing and including a tail portion; and
a solder mass secured to said tail portion for securing the electrical
connector to the substrate.

33. The electrical connector as recited in claim 32, wherein said solder
25 mass is a solder ball.

34. The electrical connector as recited in claim 32, wherein said solder

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35. The electrical connector as recited in claim 32, wherein said tail portion includes an angled portion.

36. The electrical connector as recited in claim 35, wherein said angled portion extends generally parallel to the substrate.

37. The electrical connector as recited in claim 35, wherein said angled
10 portion extends generally perpendicular from said contact.

38. The electrical connector as recited in claim 32, wherein said at least one contact comprises an array of contacts.

15 39. The electrical connector as recited in claim 32, wherein said at least
one contact extends from said insulative housing.

40. The electrical connector as recited in claim 32, wherein said at least one contact resides entirely within said insulative housing.

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